(No Model.)

W. WARNER.

AUTOMATIC HATCH CLOSER.

No. 304,381. Patented Sept. 2, 1884.

FIG. 1.

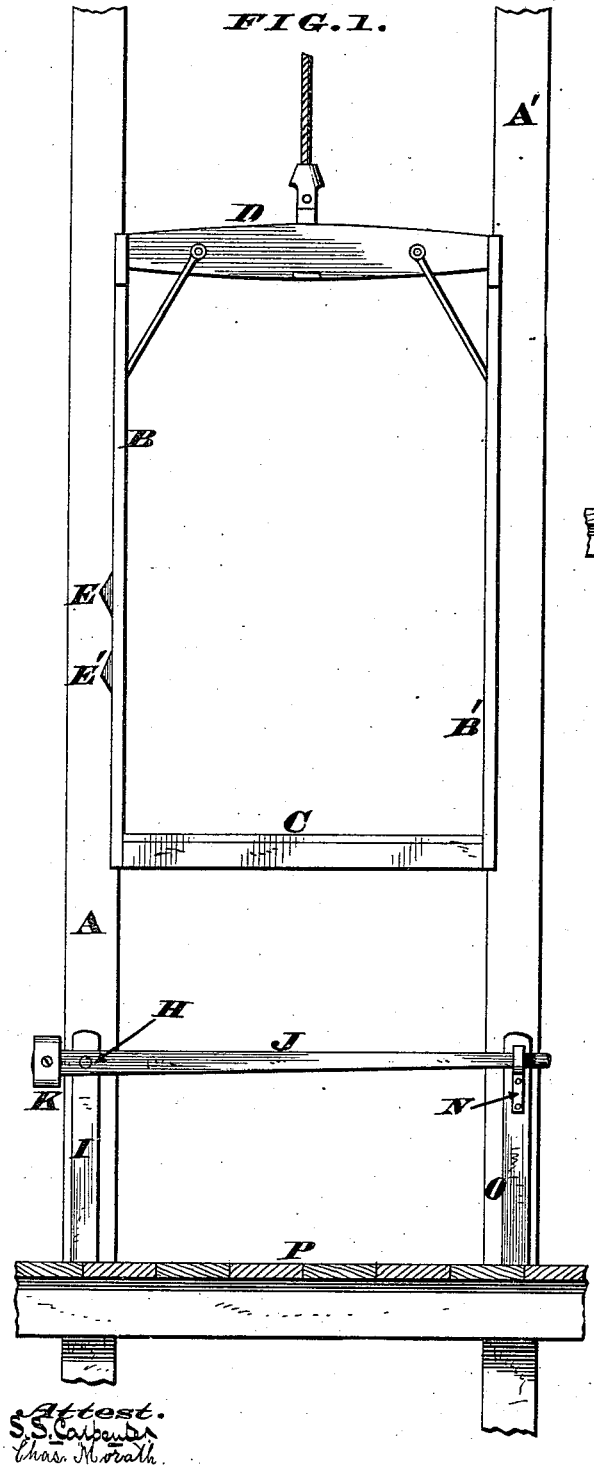


FIG. 2.

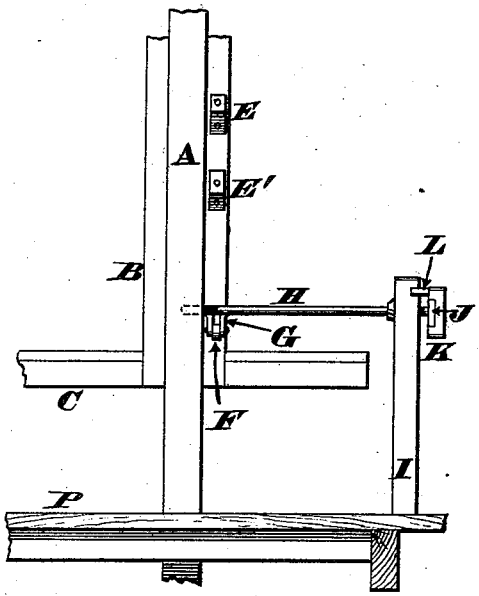


FIG. 3.

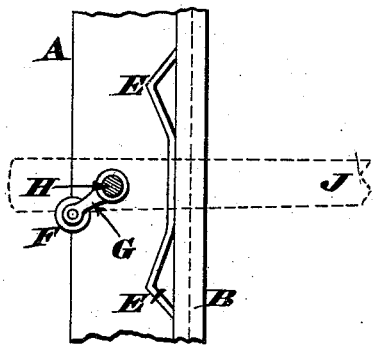
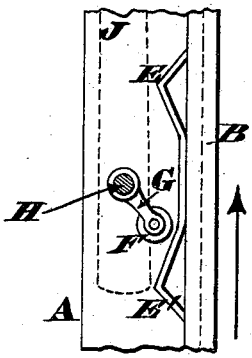


FIG. 4.



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UNITED STATES PATENT OFFICE.

WARREN WARNER, OF CINCINNATI, OHIO.

AUTOMATIC HATCH-CLOSER.

SPECIFICATION forming part of Letters Patent No. 304,381, dated September 2, 1884.

Application filed January 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, WARREN WARNER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Automatic Hatch-Closers, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide hoisters, elevators, and similar lifting apparatus with a novel combination of devices that will automatically swing a bar into such a position as to cause it to serve as a fender or barrier, which will prevent any person falling through the hatchway. I attach the ordinary vertical swinging hatchway-bar to one end of a horizontal rock-shaft, and apply to the opposite end of said shaft a short hanger, within which is journaled a roller adapted to be struck by either one of a pair of inclined planes, the latter being fastened either to the cage or platform or to some attachment of the same. This hanger is applied angularly to the rock-shaft, so as to prevent any contact of the inclined planes with the roller while the hatchway-bar is closed, but the instant said bar is swung up, so as to allow a person to pass onto the platform, the roller is brought into a position where it will be struck by either one of the inclined planes the moment the cage begins to move either up or down. Consequently, if any person should neglect to close said bar, the cage or platform will automatically and effectually perform this duty, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a front view of an elevator embodying my improvements, the cage or platform being shown above the hatchway. Fig. 2 is a side elevation of a portion of the apparatus, the cage or platform being shown lower down than in the preceding illustration. Fig. 3 is an enlarged elevation of the principal operative parts of the apparatus, the hatchway-bar being shown in its normal or closed position, and the rock-shaft being sectioned. Fig. 4 is a similar elevation showing the position said operative devices assume when the hatchway-bar is swung up to allow a person to get on the platform or cage.

Referring to Fig. 1, A A′ represent the stanchions, B B′ the side framing or guides, C the stage or platform proper, and D the beam, of any approved form of hoister, elevator, or other similar lifting apparatus.

Fastened either to the guide B or to some other attachment of the platform are two inclined planes, E E′, which may be simple blocks or castings, as seen in Figs. 1 and 2, or said inclines may be formed by bending an iron or steel bar into the proper shape, as represented in Figs. 3 and 4. These inclined planes are adapted at the proper moment to come in contact with the small roller F, which latter is journaled in a hanger, G, that projects laterally, and at a suitable angle from a rock-shaft, H, one end of said shaft being hung in stanchion A, while its outer end traverses the post I, and carries the hatchway-bar J. The heel of this bar has attached to it a balance, K, from which projects a stud, L, that limits the swing of said bar. (See Fig. 2.) The free end of bar J drops into a catch, N, on the post O. The relative arrangement of the operative parts of the apparatus is such as to cause the inclined planes E E′ to occupy the position seen in Fig. 3, when the platform C is on a level with the floor P. (Shown in Figs. 1 and 2.) Furthermore, in the normal position of the hoister the free end of bar J rests in the socket or catch N, and the platform can now ascend and descend without in the least affecting any of the automatic attachments of the apparatus; but before a person can step onto the platform, or preparatory to loading the same with freight, the bar J must be swung up to the position seen in Fig. 4, which act brings the roller F almost in contact with the guide or beam B. If, now, the attendant should neglect to turn down the bar and the platform should start to ascend, as indicated by the arrow, the inclined plane E′ will at once come in contact with the roller F and swing said bar down to its normal position, where it acts as a guard to prevent a person falling through the hatchway; but if the platform should start to descend, the other inclined plane, E, will act on the roller in a precisely similar manner, and close the hatchway without requiring the least care on the part of the attendant. It will thus be seen

that my safety-guard is wholly automatic, is not liable to get out of order, and can be readily and cheaply applied to every form of elevator and hoister, it being understood, as a matter of course, that a turn-bar and rock-shaft must be located at every hatchway in the building if perfect protection is desired. Again, it is to be understood that each hatchway is to be surrounded with a proper fence or railing on the three sides where the turn-bar J is not located. Finally, the hanger G is to be applied to the rock-shaft H at such an angle with reference to the hatch-bar J as to cause the roller F to be somewhat below said shaft when this bar is turned up, in order that the proper inclined plane of the ascending platform may force said roller away from the side frame, B, and thereby bring the hatch-bar down to a closed position.

I am aware it is not new to operate hatchway-bars by the passing cage or platform, and therefore my claim is not to be construed as an attempt to cover such devices, broadly, but is limited to the within-described combination of appliances, the essential feature of which is a rock-shaft that carries at one end the hatchway-bar, while the opposite end of said shaft has attached to it a roller operated by a pair of inclines projecting from the platform.

I claim as my invention—

The swinging hatchway-bar J, attached to one end of a rock-shaft, H, whose other end carries a roller, F, in combination with an elevator platform or stage provided with a pair of inclined projections, E E′, for the purpose herein described.

In testimony whereof I affix my signature in presence of two witnesses.

WARREN WARNER.

Witnesses:

JAMES H. LAYMAN,

S. S. CARPENTER.